

**California Energy Commission
Public Benefits Program**

**Staff Discussion Paper on Need and Funding Levels for Post 2001 Public
Goods Charge Energy Efficiency Programs**

Energy Commission Publication No. P400-99-011

This paper examines various factors that may be used to assess whether there is a need to continue the public goods funded energy efficiency program in California after 2001 and, if so, appropriate funding levels for the program. The Energy Commission staff indicate a recommended funding level or range suggested for each factor examined, but withhold a final recommendation on funding level until analysis of additional factors is complete and stakeholders have had an opportunity to provide input on this subject.

In support of the mandate contained in Assembly Bill 1105, the information contained in this paper will be discussed at the October 12, 1999, Efficiency Committee workshop, and used as one of the many factors that feed into staff recommendations on proposed program funding levels beyond the year 2001 for energy efficiency programs.

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Staff Discussion Paper on Need and Funding Levels for Post 2001 Public Goods Charge Energy Efficiency Programs

October 7, 1999

EXECUTIVE SUMMARY

Staff is in the process of determining whether there is a justification for continuing publicly funded energy efficiency programs in 2002 and beyond and, if so, what should be the funding level, who should contribute, and what is the appropriate collection mechanism. Staff will consider a variety of factors in this ongoing analysis:

1. Evaluation of current programs
2. Assessment of remaining opportunities for cost beneficial energy efficiency
3. Recent changes in market conditions
4. Future policy goals for the programs
5. Trends in total program funding and funding as a percentage of total utility revenues over the past decade
6. The estimated resource requirement of the adopted administrative structure
7. The recommendations of key stakeholders participating in this process
8. The relative cost burden of funding these programs on different types of customers

At this stage, staff proposes the following tentative conclusions in order to elicit reactions from stakeholders at the October 12 workshop:

- Preliminary conclusions support continuing publicly funded energy efficiency programs after 2001.
- At this intermediate stage, the staff is considering a range of annual funding levels from \$161-\$352 million based on a subset of the factors listed above. A final funding recommendation to the Legislature on the appropriate funding level will be based on a balancing of all factors.
- The preferred funding mechanism is a bill surcharge based on a fixed percentage of the total bill.
- All customer classes should contribute to and share in the benefits from the programs.
- The surcharge should be established and collected for both gas and electric customers.
- It may be appropriate to include load management programs targeting electric system reliability problems in the program mix.

I. IS THERE A NEED TO CONTINUE PUBLIC GOODS ENERGY EFFICIENCY BEYOND 2001?

When signing Assembly Bill 1105 into law, Governor Davis included language requiring the California Energy Commission to consider “whether there is a need for the [public goods charge energy efficiency] programs.”

The Energy Commission has contracted for an independent study by RAND Corporation to evaluate the benefits of maintaining or improving energy productivity in California’s economy. These results will address the question of whether energy efficiency programs are “needed” in the future. A draft of this report will be available by mid-January for the Governor, Legislature and the Energy Commission.

In the absence of results from RAND’s study, the staff has considered several factors to provide an interim assessment of the need for publicly funded energy efficiency programs:

1. Evaluation of the effectiveness of current programs
2. Assessment of remaining opportunities for cost beneficial energy efficiency
3. Recent changes in market conditions

Factor 1: Evaluation of the Effectiveness of Current Programs

Current public goods charge energy efficiency programs will yield both short-term measurable energy savings and long-term sustainable changes in the market. Conservative estimates of benefit/cost ratios for individual programs for 1995-1998 indicate that the vast majority of current and recent programs are cost effective in the short term.¹

At this stage, it is too early to assess the success of new programs begun in 1998 in achieving long-term program goals. The very nature of market transformation programs dictates that results are long-term. The programs will not begin to return the long-term benefits anticipated until at least late 2000.

Factor 2: Estimate of Remaining Opportunities for Cost-effective Energy Efficiency

It is not possible to complete in time for the Transition Report a definitive analysis of the remaining potential for programs to produce cost-beneficial changes in markets that increase the amount of energy efficiency investment in different market sectors. Instead, the staff is making use of a number of information sources on remaining energy efficiency potential. An existing computer model and data set is being used to estimate the remaining potential for cost-effective energy efficiency in the commercial and

¹ Based on reported Total Resource Cost and Utility Cost test results reported by the utilities. Please see Appendix A for details.

residential sectors. The results of this analysis, which do not include spill over or market transformation effects, were not complete at the time of the posting of this paper. Preliminary results of this analysis will be available at the October 12 workshop.

The staff is also assessing the magnitude of the remaining potential for achieving long-term, sustainable improvements to the functioning of markets by reviewing recent market research.

There is evidence that the residential and small commercial markets in particular will continue to offer opportunities to save energy due to the unanticipated delays in bringing retail competition to these sectors. At the time that Assembly Bill 1890 was passed, many parties felt that energy service providers would compete for residential customers from the existing utility distribution companies and therefore offer lower energy prices and energy efficiency services as a way of winning customers. It is clear that this has not yet occurred, in part because many large energy service providers appear to believe that market conditions will not allow them to yield a profit in this arena. Less than one percent of residential customers have switched to a new energy provider over the last two years, and new service offerings and are unlikely to provide new energy efficiency services to these customers in the near future. Thus publicly funded programs will continue to provide energy efficiency benefits to this sector that are not yet being provided by the private market.

The results of recent market assessment and evaluation studies indicate abundant opportunities remain for addressing barriers to the adoption of cost-effective energy efficiency by the market.³

Factor 3: Changes in Market Conditions

Electric prices are expected to decrease due to electric restructuring; Pacific Gas and Electric, for example, anticipates a price decline ranging from 11 to 43 percent beginning in 2002. If these predictions come true it will reduce the financial incentive for energy efficiency improvements in many cases.

Other circumstances, however, will tend to increase the need for increased energy efficiency. First, despite electric industry restructuring (or rather because of it), electric prices will remain complex and volatile. Even if they lower on average, there are likely to be times of expensive rate spiking. A consumer's best hedge against high peak prices is the capability to control and reduce electric usage.

3 Jane Peters, Bruce Mast and Patrice Ignelzi and Lori Megdahl, *Market Effects Summary Study, Final Report, Volume I*. Published by Research into Action, December 15, 1998. Available at www.cadmac.org. See also: *Draft Non-Residential New Construction Baseline Study*, RLW Analytics, Inc., September, 1999, and *Emerging Energy Saving Technologies and Practices for the Building Sector* by Steven Nadel, Leo Rainer, Michael Shephard, Margaret Suozzo and Jennifer Thorne, American Council for an Energy Efficient Economy, December 1998.

Second, energy efficiency is increasingly valued for consumer benefits beyond cost reduction such as increased personal comfort, reduced maintenance costs and increased property value. This is helping to spur the growth of the private energy efficiency market. Yet this market is not yet mature and continues to be subject to distortions in the market due to the transitioning state of restructuring and the role of utilities as the sole big player in energy efficiency.

Third, studies by both the Energy Commission and the North American Electric Reliability Council have identified supply and transmission system inadequacies that may impact electricity system reliability over the next several years. The extent of this problem, and the potential role of publicly funded energy efficiency programs in addressing this problem are being examined in another proceeding to be concluded in May 2000. An implication of this issue is the value of having an energy efficiency program delivery structure in place that can quickly be adapted to address these challenges as they emerge, as well as contributing to long-term reliability by reducing demand growth.

Conclusions Regarding Program Need

The above factors provide a preliminary indication that significant net public benefit could continue to be realized by continuing publicly funded programs. Substantial potential appears to remain for achieving sustainable changes in markets for increasing energy efficiency. Numerous market barriers continue to persist. State policy makers and program administrators are at the beginning of the market transformation learning curve. Much is being learned in these early generations of market transformation programs that may significantly improve the state of the art of program design, encouragement of innovative approaches, and improvements in evaluation techniques to provide early feedback on program success.

In the absence of results from RAND's study the staff will proceed with their analysis of administrative structure options and funding levels on the assumption that the RAND study results will also support the continuation of the public benefit energy efficiency program.

II. WHAT FACTORS SHOULD BE CONSIDERED IN DEVELOPING FUNDING LEVELS?

In order to develop a proposed range of funding levels for post-2001 energy efficiency programs, the staff plans to consider the following factors (note that the first three factors were discussed in detail in Section I):

1. Evaluation of current programs
2. Assessment of remaining opportunities for cost beneficial energy efficiency
3. Recent changes in market conditions
4. Future policy goals for the programs

5. Trends in total program funding and funding as a percentage of total utility revenues over the past decade
6. The estimated resource requirement of the adopted administrative structure
7. The recommendations of key stakeholders participating in this process
8. The relative cost burden of funding these programs on different types of customers

The staff is still collecting information for factors six through eight. A discussion of factors four and five follows.

Factor 4: Future Policy Goals for the Program

The Public Utilities Commission stated its broad policy objectives for public benefit energy efficiency programs in Decision 97-02-014⁴. Policy rules were later adopted detailing specific guidelines for the programs. The Energy Commission has yet to adopt any modifications to the Public Utilities Commission's policy rules. However, several goals are under development by the staff that, if adopted, may influence the setting of funding levels:

- Market transformation approaches should be emphasized;
- It may be appropriate to add the goal of improving electric system reliability;
- There may continue to be a role for resource acquisition programs, especially for targeting regional transmission system constraints; and
- Efficiency programs should be fuel-neutral and continue to target natural gas end uses.

These prospective goals suggest funds will potentially be needed for three types of programs:

1. Market transformation programs pursuing long-term benefits associated with lower energy and environmental costs.
2. Resource acquisition programs pursuing short-term and geographically constrained energy and/or peak savings to help alleviate transmission bottlenecks or congestion.
3. Load management programs designed to increase the level of customer demand responsiveness to high price signals during times of high cost generation or peak transmission constraints.

Table 1 shows staff's assessment of the current mix of utility programs in 1998. For 1999 programs, roughly 60 percent of the program spending could be classified as market transformation programs. The other 40 percent of program dollars is primarily spent on providing cash rebates and standard performance contract incentives. Although no

⁴ California Public Utilities Commission Decision 97-02-014, February 1997.

money has been budgeted for load management programs in 1998 or later, utility expenses for load management ranged from \$15 million to \$34 million between 1988 to 1997.

Table 1. Statewide Breakdown of 1998 Programs by Program Strategy

Strategy	1998 Expenditures	Portion of total
Rebates	\$54	32%
SPC payments	\$62	38%
Upstream Market Transformation	\$23	14%
Audits	\$27	16%
Total	\$ 166	100%

The appropriate funding levels of these program categories in post 2001 are difficult to assess at this point. The staff believes the level of funding currently devoted to supporting resource acquisition type programs should be substantially reduced. Additional funds may be needed if resource acquisition programs are found to be useful strategies to relieve transmission bottlenecks and improve reliability. This recommendation is in part based on the staff's review of the first year evaluation of the nonresidential standard performance contract program⁵, which leads us to believe that the program is unlikely to induce long-term market effects. Furthermore, when the impacts of free-rider participants are included in the analysis, the program benefit-cost ratio falls to near the break-even point. If the program can be revised to provide greater value in short-term energy savings and tailored to achieve specific goals (e.g., targeting regional transmission bottlenecks), funding could be increased. However, the program should be phased out if the current level of cost-effectiveness does not improve.

The staff also believes that there are a variety of strategies that could be used to increase the demand responsiveness of individuals and classes of customers to increases in energy prices during times of peak demand. These strategies include new rate tariffs, programs to promote the use of time of use rates and meters, energy management systems that can be programmed to shift load in response to high prices, and a variety of programs designed to convey better information via the monthly bill or other media to customers about the costs of using electricity at peak versus other periods. Depending on the results of the ongoing reliability study, it may be appropriate to increase the amount budgeted for load management programs.

Consideration of the likely policy goals in the absence of the other factors suggests the following funding ranges shown in Table 2.

⁵ *Evaluation of the 1998 Nonresidential Standard Performance Contract Program*, Xenergy, June 1999.

Table 2. Program Funding Ranges Suggested by Policy Goals Analysis

Program Type	Suggested Annual Funding Level Ranges⁶ (\$ millions)
Market Transformation	\$100-150
Resource Acquisition	\$50-80
Load Management	\$0-50

Factor 5: Historical Trends in Program Funding

The staff believes that past trends in both total program funding and funding as a proportion of total gas and electric utility revenues are important factors in determining future levels. The staff's paper on historical funding trends for utility energy efficiency programs⁷ provides the underlying data used to reach the highly condensed conclusions summarized below.

Historical funding for electricity and natural gas energy efficiency programs combined ranged from \$161 million to \$352 million per year. The electric portion of this is equivalent to 0.3% to 1.5% of customer electricity bills. The average annual funding for gas and electric energy efficiency programs over the last decade (1988-1998) was \$233 million. This is equivalent to 1.16% of all electricity revenues and 1.5% of the revenues from customers of natural gas companies. The average annual funding for the last five years was \$257 million. Current authorization for 1999 programs is \$228 million for electric and \$48 million for natural gas programs, for a total of \$276 million.

Table 3 shows the range of funding levels that could be collected by setting the funding level for energy efficiency programs at 1%, 1.2% and 1.5% from the investor owned utilities in California. Staff would recommend that the Commission set a percentage target for two cases:

1. Assume revenues were collected from only electric investor owned utilities and gas funding would continue to be set by the Public Utilities Commission as part of its rate making function (the current case).
2. Assume the Energy Commission is successful in sponsoring legislation that would collect program funding using the same percentage from both gas and electric utilities.

For example, staff might recommend setting a uniform collection charge of 1.2% for electricity companies in case 1 to raise \$187 million for electric programs but ask the Public Utilities Commission to collect \$48 million out of natural gas rates to meet a total projected funding need of \$235 million. In case 2, staff would recommend a uniform charge of 1.13% on both gas and electric investor-owned utilities to raise the same amount, \$235 million.

⁶ Excludes non-program costs, such as administrative and market assessment and evaluation expenses.

⁷ *Staff Paper on Public Funding for Energy Efficiency Programs in California: 1988 to 1999*, Publication No. P400-99-012, posted at www.energy.ca.gov/publicbenefits/documents/ on October 6.

Table 3. Program Funding as a Percentage of Electric and Gas Revenues

	Total 1998 Revenues (\$Billions)	Revenues from Set Percentages of 1998 Revenues (\$Millions)		
		1.00%	1.20%	1.50%
Electric IOU Revenues Only	15.7	157	188	235
Combined Electric and Gas IOU Revenues	20.8	208	249	312

Setting aside other factors for the moment, staff suggests three possible funding scenarios that are based solely on historical funding levels:

1. Propose funding levels within the range of \$161-352 million and leave it up to the Legislature to decide on a specific level;
2. Use the average funding level over the last five years of roughly \$260 million; or
3. Use the current authorization level in Assembly Bill 1890 of \$228 million for electric efficiency programs and the Public Utilities Commission's authorized level of \$48 million for natural gas programs. Combining these budgets yield a total public goods charge funding level of \$276 million.

III. WHO SHOULD CONTRIBUTE TO THE PROGRAMS?

Issues Regarding Funding Collection

Currently funds to support energy efficiency programs are collected from electric and natural gas investor-owned utilities based on pre-specified funding levels in Assembly Bill 1890 and annual funding authorizations in Public Utilities Commission proceedings. Municipal utilities collect funds for public goods programs but retain independent authority to spend and manage the funds at the local level. The staff does not recommend that municipal utilities be required to transfer their public goods charge collections to the statewide program administrator, as has been discussed in previous proceedings. However, the staff would like to pursue conversations with municipalities to create a "muni-friendly" approach to statewide program administration in which municipal utilities could voluntarily opt in.

Conclusions on Scope of Funding Collection

Currently, all customer classes contribute to public goods programs regardless of the degree to which they participate in the programs. The Public Utilities Commission has stated its intention that all customer classes share in the benefits, and current program

budgets for residential and nonresidential markets approximate the proportion of public goods charge contributions from these groups.

The staff proposes to continue collecting public goods charge funds from all customers subject to Public Utilities Commission jurisdiction and have these funds transferred on a periodic basis to the program governance and management functions. The staff believes the Energy Commission and the Public Utilities Commission should use the current arrangements for transferring funds from the utilities to state accounts for the Public Interest Energy Research (PIER) and Renewable programs as a model for a new agreement for the new energy efficiency structure.

IV. HOW SHOULD FUNDING LEVELS BE MODIFIED OVER TIME?

The staff is considering three process options for modifying funding levels over time:

- Periodic (four years) or biennial reviews by the Energy Commission of the program and then legislative authorization of recommended funding level
- Sunset provisions for the year 2006 in the bill implementing the structure
- Specifying a funding period in the bill from 2002 to 2005 and requiring legislative re-authorization of programs and funding levels for 2006 and beyond

The staff solicits comments from workshop participants on the pros and cons of these funding review options or other options not included in this list.

V. HOW SHOULD FUNDS BE COLLECTED?

The staff believes that there are two main fund collection mechanisms that should be considered:

1. Specify predetermined dollar amounts for each electric or natural gas utility to collect and transfer to the administrative structure; and
2. Specify a uniform public goods charge as a percentage of the bill or in mills/kWh for all investor-owned utilities or for all utilities in the State of California and a uniform natural gas surcharge in mills/therm for end use customers of all natural gas distribution companies regulated by the Public Utilities Commission.

The staff notes that the policy issues surrounding different forms of collection mechanisms are complex but were summarized in the 1996 Energy Efficiency Working Group Report⁸. Some key issues include: the need for exemptions from fund collection for non core gas customers, the potential need for exemptions from public goods charge collection for wholesale users of gas to self generate electricity, and the potential fuel

⁸ Funding and Administering Public Interest Energy Efficiency Programs, Chapter 3, California Energy Commission publication number #300-96-004, August 1996.

switching impacts of imposing a public goods charge on natural gas customers who have the ability to easily switch to propane use.

The staff notes that there are several advantages to setting the funding level as a percentage of total revenues from the electric and natural gas companies, including:

- This mechanism collects the same proportionate contribution from each energy distribution company and will rise and fall based on revenues collected from those companies.
- As long as the funding level for the program is set at a total dollar figure per utility, there will be rate-making issues that must be addressed by the Public Utilities Commission to allocate collection of the funds among rate classes. If the funding is phrased as mills/kWh, it simplifies the process for the Public Utilities Commission tremendously.
- Available funding for energy efficiency would increase as electricity prices increase, providing additional resources for mitigating higher energy and other societal costs associated with higher demand.
- This mechanism creates a level playing field and avoids the need to engage in an individual negotiation with each distribution company as occurred during the writing of Assembly Bill 1890.

A more detailed discussion of the pros and cons of these funding mechanisms can be found in the report of the Energy Efficiency Working Group⁹. The staff solicits comments on any or all of these collection options.

Conclusions on Funding Mechanism

The staff recommends selecting a funding level or range for the program and converting this into a fixed percentage of utility revenues from the four major investor-owned utilities.

VI. Summary of Preliminary Staff Conclusions

Staff proposes the following tentative conclusions in order to elicit reactions from stakeholders at the October 12 workshop:

- Preliminary conclusions support continuing publicly funded energy efficiency programs after 2001.
- At this intermediate stage, the staff is considering a range of annual funding levels from \$161-\$352 million based on a subset of the factors listed above. A final funding

⁹ Funding and Administering Public Interest Energy Efficiency Programs, pages 3-12, California Energy Commission publication number #300-96-004, August 1996.

recommendation to the Legislature on the appropriate funding level will be based on a balancing of all factors.

- The preferred funding mechanism is a bill surcharge based on a fixed percentage of the total bill.
- All customer classes should contribute to and share in the benefits from the programs.
- The surcharge should be established and collected for both gas and electric customers.
- It may be appropriate to include load management programs targeting electric system reliability problems in the program mix.

Staff is interested in hearing specific funding proposals and rationale from stakeholders, as well as reactions to the issues framed in this paper. After collecting this feedback and completing the remaining analysis tasks, staff will recommend a specific funding level.

Appendix A **Reported Benefit Cost Ratios** **for Specific Utility Programs for 1995-1998¹⁰**

Table A-1. Reported benefit cost ratios for Pacific Gas & Electric

Program		Total Resource Cost by Year				Utility Cost Test by Year			
		1995	1996	1997	1998	1995	1996	1997	1998
Residential									
	EMS	2.11	1.35	1.78		3.70	2.18	2.96	
	Dir Asst	0.59	0.43	0.29	0.27	0.56	0.41	0.47	0.27
	AEI	2.22	1.45	1.36		2.31	1.56	1.23	
	Power Synq Partners		1.81	2.67			1.08	1.16	
	Weatherization	1.50				3.10			
	Info	0.83	0.12			1.28	0.13		
	Market Transform.		1.76	1.58			1.93	1.40	
	Other	1.23	0.95	0.69		1.83	2.58	1.87	
	New Const	1.34	1.17	1.39		0.91	1.01	1.51	
	Upstream Information								
	Upstream Fin. Assist.								
Nonresidential									
	EMS Com Large	0.81	0.45			1.06	0.74		
	EMS Com Med/Sm	0.83	0.44			1.09	0.74		
	EMS Com			0.57				1.01	
	EMS Ind Large	1.43	0.50			3.31	0.69		
	EMS Ind Med/Sm	0.07	0.51			0.07	0.69		
	EMS Ind			0.65				1.00	
	EMS Aq	0.54	0.37	0.51		1.89	1.48	2.03	
	EMS Large								
	EMS Small/Medium								
	EEI Com Large	2.21	1.42			2.44	2.44		
	EEI Com Med/Sm	2.10	1.43			2.81	2.37		
	EEI Com			1.48				2.49	
	EEI Com PSP EE Large		1.83				1.07		
	EEI Com PSP EE M/S		1.65				1.41		
	EEI Com PSP			1.68				1.40	
	EEI Ind			1.66				2.37	
	EEI Ind Large	2.07	1.55			2.28	2.13		
	EEI Ind Med/Sm	2.78	1.68			2.72	2.35		
	EEI Ind PSP EE Large		3.58				1.18		
	EEI Ind PSP EE M/s		na				na		
	EEI Ind PSP			2.45				1.12	
	EEI Aq	1.75	1.50	1.42		2.83	2.37	2.33	
	EEI Prescr. Reb. Large								
	EEI Prescr. Reb. M/S								
	EEI Std. Perf. Cntrt Large								
	EEI Std. Perf. Cntrt M/S								
	New Const	3.06	2.17	1.87	2.38	3.01	2.05	2.20	2.41
	Capital Advantage	3.95				8.88			
	Capital Advantage Com		1.79				6.67		
	Capital Advantage Ind.		1.85				6.67		
	Upstream Progs. Fin. As.								
Unweighted Average of Entries		1.65	1.32	1.38	1.33	2.43	1.91	1.66	1.34

¹⁰ Source: Utility Annual DSM Reports, 1996-1999

Table A-2. Reported benefit cost ratios for Southern California Edison

Program	Total Resource Cost				Utility Cost Test			
	1995	1996	1997	1998	1995	1996	1997	1998
Residential								
AEI	1.51	1.43	1.33		1.48	1.26	0.93	
EEI SPCs				1.32				1.13
EEI Rebates				0.83				2.01
EEI Loans				0.01				
Dir Asst	0.85	0.75	0.74		0.71	0.63	0.62	
EMS	0.20	0.26	0.19	0.27	0.20	0.26	0.19	0.21
Info					-	-		
New Const	1.26	1.38			1.26	0.75		
Weath								
Nonresidential								
EEI Com	1.34	1.78	1.52		3.42	2.75	3.85	
EEI Ind	-	2.06	2.30		-	2.73	5.31	
EEI Ag	-	1.50	1.49		-	3.08	2.50	
EEI Custm Large				3.23				-
EEI Custm Sm/Med				4.02				10.84
EEI Prescr Large				2.76				3.79
EEI Prescr Sm/Med				3.76				6.56
Subtotal EEI		1.924				2.748		
EMS Com	1.36	1.70	1.71		5.63	7.18	7.22	
EMS Ind	2.16	1.94	1.93		6.65	5.13	5.06	
EMS Ag	2.13	0.95	0.94		8.73	2.82	2.73	
EMS Small/Medium				4.02				10.84
EMS Subtotal		1.66				5.56		
DSM Bidding	2.84	1.91	1.91		2.84	1.49	1.49	
Info								
New Const	1.99	1.40	1.20	2.31	1.96	2.39	2.28	1.71
Upstream Programs								
Info								
Fin Asst.				2.57				
Average of Entries	1.30	1.44	1.39	2.11	2.53	2.57	2.93	3.28

Table A-3. Reported benefit cost ratios for San Diego Gas & Electric

Program	Total Resource Cost				Utility Cost Test			
	1995	1996	1997	1998	1995	1996	1997	1998
Residential								
EMS	0.47	1.94	1.92		0.57	2.29	2.27	
Weatherization	1.62	2.58	1.62		1.62	2.58	1.62	
New Const	0.14	0.13	0.07	-	0.94	0.82	0.15	-
AEI Refr	1.92	2.14	0.90		2.44	0.74	1.30	
AEI CFL	2.49	1.59	1.46		3.51	2.65	2.98	
AEI Showerheads	-	-			-			
AEI Clothes washer	1.32	0.97	0.72		3.34	1.94	1.52	
AEI Shade tree	0.27				0.27			
AEI Bid CFL	1.68	1.16	0.74		1.68	1.16	0.74	
AEI Bid Shower	1.39	1.29	1.16		1.39	1.29	0.91	
AEI Bid Planergy	3.81	2.80	2.12		2.65	1.99	1.55	
AEI SPCs				1.98				1.27
AEI Rebates				5.37				13.40
AEI Subtotal	2.27	1.64			2.92	2.08		
Direct Asst	0.59	0.57	0.40	1.18	0.49	0.51	0.33	0.30
Res Subtotal	1.41	1.36	1.19		1.91	1.77	1.59	
Nonresidential								
EMS Large Com Large	2.34	1.01	1.59		16.85	9.58	10.15	
EMS Large Com M/S	1.53	3.64	2.38		16.85	19.12	15.74	
EMS Large Ind Large	3.75	2.63	1.71		16.85	11.93	13.46	
EMS Large Ind M/S	2.66	3.04	4.68		16.85	12.00	13.46	
EMS Large Ag Large	-	-	-		-	-	-	
EMS Large Ag M/S	-	-	-		-	-	-	
EMS M/S Com Large	0.76	4.35	2.51		0.91	15.90	21.63	
EMS M/S Com M/S	0.54	6.65	2.56		0.91	25.30	21.87	
EMS M/S Ind Large	0.80	4.87	5.74		0.91	16.35	21.39	
EMS M/S Ind M/S	0.84	5.13	2.88		0.91	19.90	22.02	
EMS M/S. Ag Large	-	-	11.11		-	-	21.81	
EMS M/S Ag M/S	-	8.21	1.83		-	28.50	21.81	
EMS Ag Pump	4.82	8.89	7.53		19.90	8.89	7.53	
EMS Subtotal	1.88	3.03	2.37		6.59	16.15	16.80	
EEI Com Large	3.47	3.03	2.72		5.23	4.34	4.32	
EEI Com M/S	3.44	6.50	3.37		5.38	4.01	3.54	
EEI Ind Large	4.26	6.48	3.75		7.15	13.40	8.59	
EEI Ind M/S	3.38	2.62	1.81		6.06	4.64	3.44	
EEI Ag Large	-	-	2.36		-	-	10.24	
EEI Ag M/S	2.48	2.76	1.48		7.37	7.44	4.09	
EEI Prescr Reb M/S								
EEI SPCs Large								
EEI Subtotal	3.49	4.41	3.09		5.40	4.63	4.65	
Nres New Const	4.80	4.81	2.69	3.47	7.90	7.79	6.49	8.44
Res+Nres New Const				3.47				8.44
Average of Entries	1.79	2.99	2.46	3.09	4.80	7.50	8.17	6.37

Table A-4. Reported benefit cost ratios for Southern California Gas

Program	Total Resource Cost				Utility Cost Test			
	1995	1996	1997	1998	1995	1996	1997	1998
Residential								
Total (no New Const.)				1.78				1.87
Low Income/ Direct Assist.	0.42	0.22	0.24	0.17	0.42	0.20	0.23	0.17
EMS				2.61				2.61
EEI Rebates				1.19				1.30
REMS Home Energy Fitness	1.24	4.22	3.92		1.24	4.22	3.92	
REMS Cheers	0.07	0.40			0.07	0.73		
REEI Delta Pro Tech (Bids)		1.73	1.54					
RNCEEI New Construction								
Nonresidential								
Total (no New Const.)				2.96				3.51
EMS Small/Medium				3.72				3.89
EEI Custom Small/Medium				2.98				3.83
EEI Prescrip. Small/Medium				2.32				2.84
CEMS Com EM Services	5.43	4.74	3.80		5.43	5.75	4.50	
IEMS Industrial EM Services	3.23	1.50	1.24		3.23	1.50	1.24	
CEEI Com EE Incentives	3.05	2.53	2.21		4.14	3.58	3.28	
IEEI Industrial EE Incentives			6.52				6.85	
NRNCEEI New Construction	2.40				2.86			
Total EE Portfolio (no low income)				2.84				3.32
New Construction								
Average of Entries	2.26	2.19	2.78	2.29	2.48	2.66	3.34	2.59